

Application No. 10/540,355
Amendment Dated June 19, 2008
Reply to Office Action of March 27, 2008

REMARKS

The Office Action mailed March 27, 2008 has carefully considered by Applicant. Reconsideration is respectfully requested in view of the foregoing claim amendments and the remarks that follow.

Claim Rejections

Claim 1 is rejected under 35 U.S.C. §102(e) as being anticipated by Muller U.S. Patent No. 6,852,145. Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Muller '145 in view of either Gibson U.S. Patent No. 2,059,942 or Hewitt U.S. Patent No. 5,076,822.

Claims 1 and 2 are amended to place the same in conformance with U.S. claim practice. Claims 3-10 are added to more particularly point out and distinctly claim the subject matter of the present invention.

Claims 1-10 are believed allowable over the applied references for at least the following reasons.

Claim 1

Claim 1 recites a device that creates underpressure by the fall of oil in a downcomer of substantially unchanged cross section. See claim 1, "...*cross sectional area that is substantially unreduced...*". The "unreduced" upper part is connected to a gas pipe that communicates with the upper part of the storage or transport tank. See claim 1 "...*is connected to a gas pipe, the gas pipe communicating with the upper part of the storage or transport tank....*" The unreduced upper part thus generates sufficient, but compared to for instance venturis much less local underpressure for the VOCs above the stored oil to be drawn into the downcomer via the pipe.

Muller '145 does not teach or suggest the claimed *unreduced* upper part connected to the claimed *gas pipe*. Rather Muller '145 teaches a venturi formed by a piston 12 that is positioned at the lower end of a pipeline 10. The piston has an inlet hole that is defined in a conical section 12. The purpose of the piston 12 is to create pressure reduction by increasing the velocity of the liquid, see column 3, line 54. This promotes evaporation of

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VOCs from the oil, which will then have to be re-condensed back into the oil at some later stage, which is costly in terms of time and expense.

Also, the downcomer of claim 1 is positioned at a predetermined height above the upper section of the tank in order to function when the tank is nearly filled with crude oil. See claim 1 "*where the upper part of the downcomer is arranged at a sufficient height above the upper part of the storage or transport tank to cause an inflow of gas....*" This aspect is not taught by the device of Muller '145 which is positioned directly on top of the tank and the height does not facilitate inflow of gas from the tank.

The remaining references, namely Gibson '942 and Hewitt '822 also do not teach or suggest these aspects.

Claim 1 is therefore believed allowable.

Claim 2

Claim 2 depends from claim 1 and is therefore believed allowable for the reasons above, as well as the subject matter recited therein.

Claim 3

Claim 3 is added and recites "*a downcomer having an upper part and having a lower end in communication with the lower section of the tank, the upper part being located at a predetermined height above the upper section of the tank and having a substantially constant inner diameter; and a gas pipe connected to the upper part of the downcomer and connected to the upper section of the tank*". The predetermined height is "*sufficient to cause an inflow of gas from the upper section of the tank to the upper part of the downcomer when gravity causes oil to flow from the upper part of the downcomer to the second end of the downcomer.*"

The device of claim 3 is neither taught nor suggested by Muller '145 in accordance with the comments provided above regarding claim 1. Muller '145 fails to teach or suggest the claimed upper part of the downcomer having a substantially constant inner diameter and connected to a gas pipe, which is also connected to the upper section of the tank. As mentioned above, Muller '145 teaches only a venturi that is formed by a piston

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12 having a connection point or inlet hole defined by a conical section 12 which does not have a constant inner diameter. In addition, Muller '145 does not teach positioning the upper part at a height that is sufficient to cause an inflow of gas from the upper section of the tank to the upper part of the downcomer when gravity causes oil to flow from the upper part of the downcomer to the second end of the downcomer.

The remaining references, namely Gibson '942 and Hewitt '822 also do not teach or suggest these important aspects.

Claim 3 is therefore believed allowable.

Claims 4-9

Claims 4-9 depend from claim 2 and are thus believed allowable for the reasons stated above, as well as the subject matter recited therein.

Claim 4 recites that the downcomer has a substantially constant diameter from the upper part to the lower end. This aspect is also clearly not taught by the cited references in accordance with the comments provided above.

Claim 10

Claim 10 is added and recites a method for condensing volatile organic compounds from a storage or transport tank into oil in the same or another storage or transport tank. Claim 10 is believed allowable for the reasons stated above, as well as the subject matter recited therein. The cited references do not teach or suggest the claimed step of causing oil to flow into an upper part of a downcomer that is located at a predetermined height above the storage or transport tank wherein the downcomer has a substantially constant inner diameter. In addition, the cited art does not teach or suggest the step of allowing gravity to accelerate the oil down the downcomer from the upper part to a lower end that is in communication with the storage or transport tank and providing a gas pipe connecting gas in the storage or transport tank to the upper part of the downcomer. Notably, claim 10 further includes the steps wherein the predetermined height is such that gravity creates an underpressure in the upper part of the downcomer sufficient to draw gas from the storage or transport tank into the upper part of the downcomer. As stated

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above, Muller '145 relies upon a change in diameter of flow and thus change in velocity of flow.

Claim 10 is therefore believed allowable.

Conclusion

The present application is thus believed in condition for allowance and such action is respectfully requested.

Respectfully submitted,

ANDRUS, SCEALES, STARKE & SAWALL, LLP

By



Peter T. Holsen
Reg. No. 54,180

Andrus, Sceales, Starke & Sawall, LLP
100 East Wisconsin Avenue, Suite 1100
Milwaukee, Wisconsin 53202
Telephone: (414) 271-7590
Facsimile: (414) 271-5770